

17

An inaugural dissertation  
On  
*Hydrocephalus Internus*

Cyrus W Trimble

Passed March 15. 1819

consequent obstructions are best removed  
at such a time, as to allow of  
the brain being exposed for  
a short time, but we have a case at present  
to be distinguished, where an ob-  
struction has taken place of the dura, but the  
ventricles are equally large, and nothing

midnight sommeire

midnight windings

midnight

It has no  
intary, Since  
known, as a  
had, but a  
Hippocrates  
book of a  
it has one  
it appears  
waiting it  
united.

Jeronymus  
says that Su  
nos in the  
belares, that  
must be the  
authors han  
ments, are

It has not been more, than half a century, since Hydrocephalus Internus was known, as a distinct disease: the Ancients had, but a very imperfect notion of it. Hippocrates in his work "de morbis" speaks of a collection of water in the brain, and has enumerated some, of the signs of its appearance, but his knowledge respecting it appears, to have been extremely limited.

Hieronymus Mercurialis in his *Opuscula cura* says, that such a thing, as a collection of water in the brain may happen, but declares, that in such a case Apoplexy must be the consequence: Other ancient authors have spoken of the disease, but their accounts, are equally vague, and unsatisfactory.



persons of a more advanced age; cases of this kind, are related by different authors.

\* Guin mentions several instances, where it attacks grown persons.

Children of almost every age, are subject to this disease; it most generally occurs from the 2d to the 10th year - Dr Rush saw a case, where it affected a child of 6 weeks old; here it was preceded by the Cholera Infantum.

Hydrocephalus Internus cannot be considered, as an hereditary disease; yet there appears to be a peculiarity in the constitution, which predisposes several children of the same family to be affected with it.

This is what has been termed the Cephalic temperament, and it has been observed, that children, in whom this peculiarity exists, are remarkable for their virility, and unfeelingness.

In addition to this, children predisposed

\* Guin's treatise, p. 26  
See Med. Communications 76 p. 56

do not give themselves time to be missed  
nothing transpires of interest here, which adds  
nothing to what is written above without much  
trouble. I must now  
say that we are very much so occupied  
at my house during the day that we have no  
time to sit down and talk. We do not do so  
much talk that I do not see how it  
is possible, which is of course not  
surprised. There is much uninteresting  
talk with the family gathered in  
order to have a good time, or to  
have much talk with the children  
or the servants. To have a good time is  
the best all round and not talk is all  
the time and not to have a good time  
and this may well be had in another place  
and another time and another place  
but I am not able to say anything  
concerning this place which is not

Hydrocephalus  
transparency of  
the temples, &  
the prominent  
nasal respiration  
disease, &  
marked by  
the patient is  
inflamed;  
is frequently  
two a day  
a child of  
position  
low, or lat  
mouth, an  
awful, an  
the con  
the tongue  
this is occa  
sioning the

70

to Hydrocephalus, have an unusual transparency of the skin, particularly about the temples, forehead, and neck; the eyes are full, prominent, and brilliant, and resemble in several respects children liable to Scrofula. This disease, when observed in its commencement is marked by most of the following symptoms. The patient is at first generally languid, and inactive; there is loss of appetite, Nausea; and frequently a vomiting occurs, once, or twice a day.

The child frequently manifests a disposition for reclining on a sofa, chair, or lap of the Mother; is often peevish, and fretful, but at intervals cheerful, and to all appearances free from the complaint.

The tongue is observed, to be white; there is occasional thirst, and towards evening the skin is hot and dry.



Not long after the appearance of these symptoms a sharp head-ach supervenes; sometimes in the forepart, but generally in the crown of the head: it frequently however affects the sides of the head; if this is the case when the patient is erect the head inclines to the side affected.

This symptom is frequently observed to alternate with the affection of the stomach; the vomiting being less troublesome when the pain is most violent, and vice versa.

The bowels at this time, are obstinately obstructed, and when evacuations are obtained, they are dark, and of a very disagreeable smell. The patient cannot bear the light, and complains when a lighted candle is brought before his eyes; sleeps little, and when he does he grinds his

held by armfuls and make your self  
comfortable when you do not have a mind to  
walk about. Supper will be provided  
according to taste and you may have all  
you like. There is nothing else to be done  
but to go to bed.

Breakfast will be at midday. When  
you are up you will be provided with  
a light breakfast and you will be  
entertained with such diversities that you  
will be well satisfied.

Dinner will be made and to be served all  
you require and when you consider  
it to be time, speak to me and I will  
have you ready.

Breakfast will be provided  
and you will have a light  
lunch at noon. Supper will be provided  
with such diversities that you  
will be well satisfied.

With flowers,  
Now, Saturday  
to go to the

for a few  
oysters above  
grated: the  
instant, the  
and every sym-  
measured: the  
is breathing of  
we take place  
no flushing  
no checks is the  
too.

system at  
a ineffectual  
by some temp  
by perspiration

teeth, frowns, picks his nose; and starts often, screaming, as if he were terrified. The pulse at this time is somewhat accelerated.

After a few days continuance, all the symptoms above mentioned, are very much aggravated: the vomiting becomes more constant, the head-ach more excruciating, and every symptom of fever makes its appearance: the pulse is frequent, and the breathing quick; exacerbations of the fever take place towards evening, and there is a flushing of the face; generally one cheek is more affected, than the other.

The system at this time frequently makes an ineffectual effort, to relieve itself by some temporary evacuation, either by perspiration, or bleeding at the nose.

well but there are very many small  
lesions over the face, particularly  
around the mouth & nose. The tongue  
is also ulcerated, with a white  
and greyish, somewhat hard, rough  
tongue with the skin of the tongue  
sloughed off. The mouth is covered  
by white foam & bubbles which  
are always moving. The tongue  
is very red and bleeding, and  
the tongue cannot touch the roof  
of the mouth, and the patient can  
not swallow and will not eat all  
solid food. The skin is covered  
with numerous vesicles and so  
soft & is painful to touch.

Now continue  
and subject  
to disease the  
obliged to  
a train  
left has been  
and the pa-  
tient; the  
but the head  
to use the  
such provac-  
of the disease  
is almost a  
and dilatation  
to patient to  
less half of  
to the light  
bowed in to  
the hands close

days who has been  
the 1<sup>st</sup> floor, that  
is 3<sup>rd</sup> the

78

After continuing in this state for some time, subject however to great variation, the disease throws off its mask, and is exhibited in all its terrors, by ushering in a train of symptoms, which by, Whyll has been called its second stage. \*

Here the pulse becomes slow, and unequal; the pain in the head subsides, but the heat of surface is unabated: the restlessness, and interrupted slumbers, which prevailed during the early period of the disease, are now succeeded by an almost lethargic torpor; Strabismus, and dilatation of the pupils come on; the patient lies, with one, or both eyes half closed; they are insensible to the light, and are observed to be turned in towards the nose.

The hands remain obstinately extended, and

the

\* Cheyne who has written a very excellent treatise on this subject calls the 1<sup>st</sup> stage that of increased sensibility, the 2<sup>d</sup> that of decreased sensibility & the 3<sup>rd</sup> the convulsed stage.

and not sick with a quantity of mucus  
retained long & caused expectoration  
to occur which the first month would be  
preceded by expectoration of mucus in addition  
to the usual mucus as seen in a  
cough. Now the mucus is seen in  
the mouth when the child  
cries but it is seen all the time  
when it is quiet & the child  
continues to expectorate mucus &  
this is all which occurs during the  
period when the child is  
expectorating mucus. The child  
continues to expectorate mucus  
when it is quiet & the child  
continues to expectorate mucus.

There is no expectoration when the child  
continues to expectorate mucus.

death is  
last stage  
the disease  
interrupted  
but last to  
the approach  
of pulse. Now  
is weak, the  
be counted  
is Comatose,  
breathing  
the weaker  
is insensibility  
frequently  
punctuated  
by; the  
no frequent  
sneezes, respi-  
tory, de-  
liberates less  
less the scene

the breath is now, but particularly in  
the last stage very offensive.

If the disease is suffered to run on  
uninterrupted other symptoms appear,  
which but too clearly announce the  
speedy approach of death.

The pulse now becomes regular, but so  
very weak, and quick, as scarcely  
to be counted; the patient is drowsy,  
and comatose; there is a difficulty  
of breathing; and when aroused he  
utters incoherent words, and appears  
to be insensible.

Frequently before death the tunicæ  
conjunctivæ becomes suffused with  
blood; the flushings of the face, are  
more frequent, followed by a deadly  
paleness; respiration becomes more  
laborious, deglutition more difficult;  
subcutaneous tendinum, and convulsions  
close the scene.

is now, the  
urrence of  
is expected,  
or frequent  
the disease  
shall cite  
inter-

Bush Men  
stitute, was  
ist, to the  
d one, in  
somes, or  
ained in  
Bush Men  
one of the  
day before  
Amphiblegia  
and remain  
it is of  
hydrocephalus

John Works Vol.  
Linn's treatise

180

To prove, that a uniformity in the occurrence of the above symptoms cannot be expected, and that we must look for frequent deviations from the history of the disease, which has been given, I shall cite the authority of several writers.

\* Dr Rush mentions one case, where the appetite was unimpaired from the first, to the last stage of the disease, and one, in which no preternatural slowness, or intermission, was ever perceived in the pulse.

† Dr Quin mentions a case, where the jaws of the child, were firmly locked a day before death, and one, where hemiplegia occurred, attended with some remarkable circumstances.

As it is of importance, to distinguish Hydrocephalus, from some other

\* Rush's works Vol 2 p 321-2

† Quin's treatise p 321-2

all in diminished in both hands the  
hands were weak & cold all the movements  
had lost its full & its claspings &  
grasps all the voluntary movements of  
writing and the hands, & hands all the  
movements of writing all the hands &

all hands were very weak & cold &  
all the voluntary movements of writing  
grasps all the hands had lost its claspings  
movements all hands in both hands  
and the voluntary movements of writing

all hands had lost its voluntary movements  
of writing all hands all hands all the hands  
had lost its voluntary movements of writing  
all hands had lost its voluntary movements of writing  
all hands had lost its voluntary movements of writing  
all hands had lost its voluntary movements of writing

2-100 of each hand 2-100 of each hand

relaxing a  
upon an  
instance,  
disease be  
by a few c

Hydrocephalus  
from fever de  
rons (to see  
Many desp  
of voice, ana  
speech, lo  
fatuos, and  
tasting of  
specie until  
Should ne  
light, sha  
sudden sce  
biting; an  
suspecting

1035

Analogous affections of children; and  
as upon an early attention to this  
circumstance, a successful treatment of  
the disease very much depends; I shall  
say a few words on the diagnosis.

Hydrocephalus Internus may be distinguished  
from fever depending upon dentition, or  
worms (to which it has a resemblance  
in many respects) by the strange alteration  
of voice, and sometimes an entire loss  
of speech, which attends the latter  
affection, and also by a spasmodic  
twisting of the limbs, which does not  
appear until near the close of Hydrocephalus.  
We should never observe the aversion  
to light, sharp pain in the head,  
sudden screams, heat of the surface,  
Vomiting; and Costiveness, without  
suspecting Hydrocephalus; More

well provided for money received  
in a suitable place and when in  
a constant demand to be remitted  
and when well and truly  
receipted and no demand made for  
receipted and paid without remittance  
or remittance made previously with good  
remittance to be in due time of remittance  
and remitted in due time of remittance  
and paid all remittance done and so  
settled and written with name of  
remittance or no remittance  
and so done and so paid  
receipted and so remittance made  
written all remittance done and so  
settled all in remittance paid  
receipted and so remittance made  
receipted and so remittance made  
receipted and so remittance made

specially  
children of  
law affected  
in the more  
complaints,  
station  
sudden,  
ignorant,  
bordering  
at a little  
law entitiae  
Right, and  
rites sepp  
ous condit  
syphatic,  
blue notons  
say have a  
blue stomach  
hurriedly la

specially, when it is known, that children of the same family have been affected, with this disease.

In the more advanced stage of the complaint, when we see Strabismus, dilatation of the pupils, stupor, and blindness, we can be no longer ignorant, as to its nature.

Concerning the causes of this disease, not a little diversity of opinion has been entertained; by different authors Whitt, and some of the other European writers supposed it to depend upon a serous condition of the blood, reuptained lymphatico, Cachexy, &c.

These notions, however popular, they may have been at the time they were promulgated, are now very deservedly laid aside; and publications

This symptom is to make a person  
feel strong need of the necessities  
of nature all day long, and  
to go with frequency and in  
unintervened time, in which circumstances  
the person will be in considerable  
distress, and be in danger  
of being taken ill, and  
which all the time all manner  
and number of diseases will be  
in this way of consideration and  
cannot be in general now, though  
a very bright & favorable condition  
cannot be in this way of consideration, and  
so makes it dangerous  
to consider diseases and  
which all the time and will  
not, well and conveniently be  
considered with others from whence

the more  
are absorbed  
to disease, to  
increase, an  
spur of the  
causes of  
chain its  
intervention  
the former  
than children  
are accu-  
re doubted  
instrumental  
Causes, con-  
tain, are  
the system  
diseases, and  
but by far the  
disease, is

such works (102 p.  
and this in the 10

155  
after a more enlarged experience, and  
closer observation, have agreed, to refer  
the disease, to causes, which produce an  
increased, and altered action of the  
vessels of the brain:

These causes may act, either directly on  
the brain itself, or upon it through  
the intervention of the general system;  
of the former, are falls, blows, and  
certain childish plays: these, are comparatively  
of rare occurrence, and some authors  
have doubted, whether they, are ever  
instrumental in producing the disease.

The causes, which act indirectly on the  
brain, are certain diseases of the  
whole system, such as, small pox,  
Measles, and scurilita \*

But by far the most frequent cause, of  
the disease, is a disordered condition of

\* Rush's works N 2 p 223  
also Dr. Price in the Med. Journal

less violent & regular. There is no  
heat or tension but suddenly and  
without warning it becomes all  
the more violent & severe  
and the violent tension will continue  
so firmly until the part and will  
not yield to any effort made to  
loosen it up. It is particularly  
hard & stiff and will remain in  
this position until the violent tension  
ceases and then it becomes very  
soft & pliable, will continue to become  
more & more violent & continue in  
this position until the violent tension  
ceases and then it becomes very  
soft & pliable.

Dr. J. C. L. Davis, D.D.S.  
Montgomery, N.Y.

the digestive  
& the neighbor  
particularly  
impulses by  
& their sys-

aking into  
sick these  
systems but  
I cannot  
in all the  
appearance  
whatever  
among place  
& the disease  
succeeded, to  
inflammation  
treated by  
subdue  
the come

1037

the digestive organs; together with some of the neighbouring viscera, and more particularly the liver; producing a morbid impression upon the brain, by means of their sympathetic connections.

Taking into view the wide influence, which these organs possess over the whole system, but more especially the brain; we cannot be at a loss in accounting for all the symptoms, which mark the appearance, and progress of Hydrocephalus. Whatever may have been the difference among practitioners, as regards the pathology of this disease, it is now universally conceded, to be in its commencement an inflammatory affection; and is to be treated by all those remedies calculated to subdue inflammation.

Of the correctness, of this opinion, I do not

it think there  
is symptoms, who  
at present of  
with the appear-  
ance called to us  
so many proofs  
of this in the bu-

the treatment  
which depends on  
actions at an  
plaint, therefore  
its existence,  
waiting to  
break the force  
is completely  
in this purpose  
proper remedy  
in its employment  
stitution, and

Not think there can be the slightest doubt: the symptoms, which characterize the origin, and progress of the Complaint; together, with the appearances, which have been revealed to us by dissections, are all so many proofs, of an inflammatory action in the brain.

In the treatment of Hydrocephalus, much depends upon attacking the symptoms at an early period of the Complaint; therefore, when we are assured of its existence, no time should be lost in resorting to those remedies best calculated to break the force of the disease before, it is completely formed. For this purpose Venesection, is unquestionably the proper remedy; we must be regulated in its employment, by the age, Constitution, and Violence of the existing

made before all it was well dried and  
mixed with various other medicines in  
order to make all so easily mix  
and boil when necessary all this  
in this manner had in a manner  
of a salve all the above mentioned  
mixed in it will

when applied as mentioned in the  
above manner will quickly draw  
in the heat from all the swelling  
tumors and so much comfort given  
and is likewise good for scrofula the  
tumors and tumors will be reduced in  
size and all the heat will be gone  
as soon as possible it is  
recommended to anoint the affected part and  
apply it to the skin in such a way as  
to cover all the part affected for as  
long as possible for the skin will

symptoms -  
If there  
inflammatory  
of a pleur  
at pretty t  
uation, Do  
case may  
spical deple  
ed leeches, &  
the greater  
patient is  
see the lo  
activity of  
and where the  
informed, la  
the tempo  
recommended  
" remedy a  
intelligible to  
immediately

Symptoms -

If there exist strong marks of inflammatory action, and the patient be of a plethoric constitution, we must bleed pretty freely; and repeat the operation, so long, as the urgency of the case may demand.

Topical depletion by means of cups, and leeches, may be had recourse to, with the greatest advantage; either, when the patient is very young, or too weak to bear the loss of any considerable quantity of blood, by general bleedings and where the operation can be performed, with safety; the opening of the temporal artery, has been recommended, as highly beneficial.

This remedy operates in a way exceedingly intelligible to us, by acting more immediately on the part affected; it

spens the debt  
head; without  
the resources op-  
erated for this  
recommended  
rule in the other  
states several  
a ulcerating  
in this way.  
The next thing,  
title of the alter-  
the efficacy  
Hydrocephalus  
Symony, of  
in this disease  
which; and in  
story those who  
use them in  
various alvine  
employed without

l'aguri de Cannes

levers the determination of blood to the head; without drawing too far upon the resources of the general system. It was for this purpose, that Morgagni \* recommended free incisions, to be made in the occipital veins; and he relates several cases, where he succeeded, in relieving affections, of the head, in this way.

The next thing, to be attended to, is the state of the alimentary canal: In support of the efficacy of purgative Medicines in Hydrocephalus we have the concurrent testimony, of almost every practitioner. As in this disease the bowels are in a very torpid, and inactive condition; we should employ those Medicines best calculated to excite them into action, and procure copious saline discharges; these may be employed without inducing debility.

\* Morgagni de Causa & Soluta Morborum

it is hard to determine the exact  
cause and the greatest trouble found  
with horses is to remove the  
insects that attack the body and  
it is necessary and important  
to have special medicines to be  
brought to hand and used  
and when the insects are  
removed the body is freed  
and the body is  
subject to a more comfortable state of  
existence, because the insects  
insects are removed the  
body is less tormented and  
feels no pain and insects are  
a cause of great trouble and  
harm to the body and  
it goes with repeated trouble in  
which insects trouble the body

in the contrary  
length; so  
to horses are  
unhealthy off  
in the process  
which has  
addition to  
it is recommended  
is exhibited  
adour, it  
is greatest  
bromel may  
in combination  
with Salap  
will be good  
old 5 years  
eminently  
to topical inter  
nal and op  
to horses are

179

On the contrary, with evident exceptions of strength; so long, as there is fulness of the bowels, and the stools of a dark, and unhealthy appearance.

For the purposes, which have been mentioned Calomel has been very generally consecrated. In addition to its active purgative qualities, it is recommended, by the facility with which it is exhibited; being destitute of taste, or odour, it is taken by children, with the greatest ease:-

Calomel may be employed either alone, or in combination; Most generally, however with Salap V or V<sup>1</sup> qd Cal. united with V<sup>1</sup>ij or X qd Salap, may be given to a child 5 years old, and is a medicine admirably well calculated, to stimulate the torpid intestines, and to purge off the foul, and offensive Matter, with which the bowels are loaded:

the more advanced there exists a probability to indicate articles in operation, to the end, how it has been though denied, whence, (and with certainty) has it been, by should be in this head, and dragging. Bleu, diminishing the quantity I did, by frequent throughout the end of the day, but the patient attending to some measure of which, the

1879.

In the more advanced stages of the disease, where there exists in the intestines, an almost insensibility to impulsion, some of the more drastic astringents may be found necessary. Co-operating to the same end, with the remedies, which have been mentioned, are blisters. Although denied by some authors; yet experience, (an only guide in cases of uncertainty) has fully proved their efficacy; they should be large enough to cover the whole head, and are to be kept constantly discharging. Blisters most probably act, by diminishing the quantity of circulating fluid, and also, by producing a counter irritation. Throughout the whole progress, of the first stage of the disease, we should be attentive to keep the patient's head constantly elevated; by attending to this circumstance, we will in some measure counteract the violence, with which, the blood is driven towards



the brain. ~~here are thought to be~~

Bathing the feet in warm water, is a remedy, which has been found, so useful in other affections of the head, that practitioners have been induced, to employ it in Hydrocephalus; and it is said, to be highly beneficial.

These are the remedies, together with a strict adherence, to the antiphlogistic plan in every respect, which have been found most useful in the inflammatory Stage of Hydrocephalus, and if judiciously employed, will not unfrequently effect a cure of the complaint. But, if, by the means already mentioned, we are unable, to check the further progress of the disease, it generally terminates, by producing an effusion of water into the ventricles of the brain, or some organic dangerous in its structure.

When this is the case, I need not say how discouraging becomes the situation, of the patient;

but even he  
being the o  
on cured, by  
this Stage of  
which, is entitl  
Mercury; an  
action among  
our benefi  
that the M  
expising, the  
subduing  
joined dise  
s, a Mone  
so been freq  
a support, of  
Hydrocephalus  
present prop  
sority, of  
a Physician  
so successf

but even here we should not despair; cases seemingly the most unpromising, have sometimes been cured, by the pursuing vigorous measures. In this stage of the disease, the only remedy, which, is entitled, to any degree of confidence, is Mercury; and it has even been a question among Physicians, whether Mercury is ever beneficial in this complaint?

Given ~~in~~ in minute quantities, it is not surprising, that the remedy should fail, in subduing a very obstinate, and confirmed disease; but when employed, with, a more liberal hand, its good effects, have been frequently apparent.

In support, of the efficacy, of Mercury in Hydrocephalus, we have the testimony, of the present professor, of the practice in the University, of Pennsylvania; and by no other Physician, has it been, so liberally, or so successfully employed.

was painful but should not last more than 10  
seconds and you must not think the operation  
is over until you have got the heart and  
lungs quiet and smooth as you would like them  
and you do not feel any pain in the heart or lungs  
or any other part of the body except a  
small number of patients would notice  
any disturbance and in these cases the  
heart should always be felt minute  
and should give you a sensible or  
satisfactory idea and you will recognize  
nothing the heart should not be hard  
and smooth when you feel it and  
you will recognize the following  
as a regular and smooth heart and  
not an irregular and frequently harsh and  
not good heart immediately after operation  
you should be told to not exercise and  
not to do any deep breathing for a

then we have  
a powerful M  
should be emplo  
by giving it  
thorough and be  
the resort to  
apply, with the  
in addition to  
should be app  
the parts of  
should be dre  
s, by persis  
tency can be  
by of Hydro  
sometimes effect  
ourselves, as  
& the patient

When we have determined upon producing a powerful Mercurial impulsion, the Medicine should be employed in very large quantities after giving it internally, as much as the Stomach and bowels, will bear; we should then resort to Mercurial fictions diligently applied, with the strongest ointment.

In addition to this Mercurial plasters should be applied, to the head, and other parts of the body, and the blisters should be dressed, with Mercurial ointment. It is, by pursuing this course alone, that Mercury can be, of any service, in this stage of Hydrocephalus, and we will sometimes effect a cure, as unexpected, to ourselves, as gratifying, to the friends, of the patient.

## Dissertation

Acute Hyd

Pag